

D<sup>1</sup>

metals will vary depending on the ohmic layer 22A and reflector layer 22C but some candidates include Ni, Co, NiO, Rh, Cr, Pt, Mo, Ti, TiW, WSi, WSi:N, TaSi, TaSi:N, InSnO, or TiW:N. The ohmic layer 22A and reflector layer 22C provide the same function as described in the first embodiment.

In accordance with 37 C.F.R. § 1.121(b)(1)(iii), Attachment A contains marked up version of the amended paragraphs illustrating the newly introduced changes in the specification.

#### IN THE CLAIMS

Please amend the claims as follows. The following is a clean version of the entire set of pending claims. In accordance with 37 CFR § 1.121(c)(1)(ii), Attachment A provides marked up versions of the claims containing the newly introduced changes.

D<sup>2</sup>

1. (Four Times Amended) A light-emitting device comprising:  
a semiconductor heterostructure including at least one p-type layer and one n-type layer; and  
*wherein an n-type layer is on a p-type layer*  
a p contact and an n contact, the p contact electrically connected to the p-type layer, the n contact electrically connected to the n-type layer, wherein at least one of the p and n contacts is a multi-layered contact external to the semiconductor heterostructure, the multi-layered contact comprising:  
a metallic reflector layer;  
a continuous uniform conducting sheet that makes ohmic contact to the heterostructure; and  
( a conductive barrier layer interposing the reflector layer and the continuous uniform conducting sheet; )  
wherein the multi-layer contact has a reflectivity greater than 75% for light at an operating wavelength of the light-emitting device.

3. A device, as defined in claim 1, wherein the multi-layer contact has a specific contact resistance less than  $10^{-7} \Omega\text{-cm}^2$ .

✓  
Please cancel claim 4.

5. A device, as defined in claim 1, wherein the reflector layer has a thickness greater than 500 Å.

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6. (Twice Amended) A device, as defined in claim 1, wherein the sheet that makes ohmic contact to the heterostructure has a thickness less than 200 Å.

7. A device, as defined in claim 1, wherein the reflector layer is selected from the group consisting of Al, Cu, Rh, Pd, and Au.

8. A device, as defined in claim 1, wherein the p and n contacts are on opposing faces of the heterostructure.

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9. (Twice Amended) A device, as defined in claim 8, wherein the sheet that makes ohmic contact to the heterostructure includes Ni and Ag.

10. A device, as defined in claim 8, wherein the reflector layer is Ag.

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11. (Four times Amended) A light-emitting semiconductor device comprising:  
a semiconductor heterostructure having at least one p-type and one n-type layer; and  
a p contact and an n contact, the p contact electrically connected to the p-type layer, the n contact electrically connected to the n-type layer, wherein at least one of the p and n contacts is a multi-layer contact external to the semiconductor heterostructure, the multi-layer contact comprising:

a metallic reflector layer; and

a continuous uniform conducting sheet that makes ohmic contact to the heterostructure;

wherein the multi-layer contact has a reflectivity greater than 75% for light at an operating wavelength of the light-emitting device and wherein the multi-layer contact has a

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specific contact resistance less than  $10^{-2} \Omega\text{-cm}^2$ .

✓  
Please cancel claim 13.

D6

14. (Twice Amended) A device, as defined in claim 11, the multi-layer contact further comprising a barrier layer interposing the reflector layer and the sheet.

15. ~~A device, as defined in claim 11, the reflector layer having a thickness greater than 500 Å.~~

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16. (Twice Amended) A device, as defined in claim 11, the sheet that makes ohmic contact to the heterostructure having a thickness less than 200 Å.

17. ~~A device, as defined in claim 11, the reflector layer being selected from the group consisting of Al, Cu, Rh, Pd, and Au.~~

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18. (Twice Amended) A device, as defined in claim 11, wherein the sheet that makes ohmic contact to the heterostructure is selected from the group that consists of Ti, Au/NiO, and Ni/Au.

Please add the following new claims:

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19. (New) A device, as defined in claim 1, wherein the semiconductor heterostructure includes at least one III-nitride layer.

20. (New) A device, as defined in claim 11, wherein the semiconductor heterostructure includes at least one III-nitride layer.